

University of Massachusetts Lowell

EXAMPLE ACADEMIC PLAN FOR PhD in BMEBT - MEDICAL PHYSICS
SPECIALIZATION

Entering with BS in a Technical Discipline

This sequence assumes the entering student has adequate preparation in undergraduate Mechanics, Electricity and Magnetism, Quantum Mechanics or Modern Physics, equivalent to a minor in Physics; therefore no physics remedial courses (95.500 level) are necessary.

Year 1, Semester 1 (Fall)

IB 500 Introduction to Biomedical Engineering & Biotechnology	(3)
81.666 Selected Topics in Molecular and Cellular Biology	(3)
98.501 Radiation Safety and Control – I	(3)
98.711 Radiological Sciences Seminar	(0)

Year 1, Summer Semester

34.651 Sectional Human Anatomy	(3)
34.659 Sectional Human Anatomy Lab	(1)

Year 1, Semester 2 (Spring)

IB 575 Quantitative Physiology	(3)
IB 550 Instrumentation and Laboratory Experience	(3)
IB 520 Ethical Issues in Biomedical Research	(1)
98.562 Radiation Biology	(3)
98.712 Radiological Sciences Seminar	(0)

Year 2, Semester 3 (Fall)

24.539 Mathematical Methods for Engineers	(3)
98.509 Nuclear Instrumentation	(3)
98.605 Radiation Interactions and Transport	(3)
98.711 Radiological Sciences Seminar	(0)

Year 2, Semester 4 (Spring)

98.596 Introduction to Medical Imaging	(3)
98.565 Radiation Therapy Physics	(3)
98.606 Monte Carlo Simulation of Radiation Transport	(3)
98.712 Radiological Sciences Seminar	(0)

Year 3, Semester 5, (Fall)

98.533 External Dosimetry and Shielding	(3)
98.597 Advanced Medical Imaging Physics	(3)
IB 600 Capstone Project	(3)
98.711 Radiological Sciences Seminar	(0)

— TARGET DATE FOR GRADUATE RESEARCH ADMISSION EXAM (Capstone) —

Year 3, Semester 6 (Spring)

— TARGET DATE FOR COMPREHENSIVE EXAMINATION —

98.665 Advanced Radiation Therapy Physics	(3)
IB 759 Dissertation Research	(3)
98.712 Radiological Sciences Seminar	(0)
IB 601 Doctoral Seminar	(0)

Year 4, Semester 7 (Fall)

98.676 Graduate Medical Physics Internship (Clinical Rotation – I)	(1)
IB 759 Dissertation Research	(8)
98.711 Radiological Sciences Seminar	(0)
IB 601 Doctoral Seminar	(0)

Year 4, Semester 8 (Spring)

98.686 Advanced Medical Physics Internship (Clinical Rotation – II)	(1)
IB 759 Dissertation Research	(8)
98.712 Radiological Sciences Seminar	(0)
IB 601 Doctoral Seminar	(0)

Year 5, Semester 9 (Fall)

IB 759 Dissertation Research	(8)
98.711 Radiological Sciences Seminar	(0)
IB 601 Doctoral Seminar	(1)

Year 5, Semester 10 (Spring)

IB 759 Dissertation Research	(8)
98.712 Radiological Sciences Seminar	(0)
IB 601 Doctoral Seminar	(1)

— TARGET DATE FOR DISSERTATION DEFENSE —